

No. 2.—*Critical Notes on New Neotropical Birds*

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The following notes and descriptions of new subspecies of South American birds are the product of the study of a large collection from lower Amazonia made by A. M. Olalla in 1932 and 1933. As might be expected, many of the novelties do not come from the lower Amazon, but from so many diverse parts of South America and even Panama, that they are best published in advance of our final report.

Particular mention should be made of our obligations to the director of the Carnegie Museum at Pittsburgh and to Mr. W. E. Clyde Todd, the Curator of Birds, for the opportunity of studying the great collections in that institution, and for permission to include in this paper and our final report all information obtained in any way supplementary to the knowledge already available about the ornithology of the Lower Amazon. Such generosity and co-operation is most unusual. This accounts for the frequent citation of material in the Carnegie Museum in the following pages. Two solid weeks were spent in Pittsburgh examining the Klages collections. By agreement with the authorities, we describe such new forms as are represented by specimens in both institutions. Mr. Todd will shortly publish another describing the new forms which are represented solely in the Carnegie Museum.

It might be worth while to put on record here a brief summary of the collections available in Pittsburgh from this general area. From our area in Lower Amazonia, we examined 7,379 specimens; from the Rio Purus and both banks of the Rio Solimoes there are an additional nine thousand specimens. Of almost equal importance in this connection is the collection from French Guiana. We do not recall a single case of a bird for which "Cayenne" is the type locality, which is not represented by adequate to very fine series of perfect skins. The total number of specimens is 7,321, but this includes a large collection from Rocana, Para, just over the Brazil border, a few miles south of Pied Saut, in a region which drains north into the middle reaches of the Oyapock River.

*CRYPTURELLUS SOUI* DECOLOR subsp. nov.

*Type.* No. 173,021, Mus. Comp. Zoöl.; ♂ ad.; Pinhy, right bank of Rio Tapajoz, Para, Brazil; June 15, 1933; coll. A. M. Olalla.

*Characters.* Differing strikingly from typical *soui* of Cayenne in

that both sexes are duller colored, less tawny above; females paler and more ochraceous, less tawny below; males less different than females, but greyer and browner, less buffy and ochraceous.

*Material examined. soui*: French Guiana, 1 ♂ 3 ♀ in the Carnegie Museum; *decolor*, the type; also Benevides, 1 ♂; Santarem, 3 ♂ 1 ♀; Rio Tapajoz, Villa Braga and Miritituba, 2 ♀ (all in Carnegie Museum).

*Remarks.* This little Tinamou of Central and northern South America is extremely variable and numerous races are now recognized from those parts of its range from which adequate series exist. In fact typical *soui* is possibly the only subspecies as yet inadequately represented. Hellmayr has shown (Novit. Zool., 1906, p. 385) that birds from Para are separable from British Guiana specimens, but the lack of a Cayenne series made it impossible for him to say which of these two forms was typical *soui*.

From Hellmayr's extended comments (Novit. Zool., 1910) it is apparent that birds from the left bank of the Rio Madeira are very different from the subspecies here proposed. They are exceedingly close to *soui*, apparently differing only in the color of the upper tail coverts, though they have since been described as *hoffmansii* Chubb, based on one specimen.

#### NOTES ON MICRASTUR MIRANDOLLEI Schl.

A female from the Rio Acara, Para, Brazil, fully adult, and 1 ♀, Villa Braga, Rio Tapajoz (Carnegie Mus.) agree perfectly with the detailed description of the Surinam type, a fine adult from Cayenne (Carnegie Mus.), and with the description and plate in the Biologia Centrali-Americana of a Guiana bird. Two adults from eastern Panama differ notably in having much narrower and paler tail bands and in having the white underparts washed with richer buff. Judging by an immature bird and an intermediate specimen also from eastern Panama, the differences described above have nothing to do with immaturity, and we name the Panama bird:

#### MICRASTUR MIRANDOLLEI EXTIMUS subsp. nov.

*Type.* Museum of Comparative Zoölogy, No. 155,116; ♀ ad.; Permé, Caribbean coast of extreme eastern Panama; April 16, 1929; coll. H. Wedel.

*PSOPHIA VIRIDIS INTERJECTA* subsp. nov.

*Type.* No. 173,207, Mus. Comp. Zoöl.; ♂ ad.; Cametá, left bank of Rio Tocantins, Para, Brazil, Dec. 20, 1932; A. M. Olalla.

*Characters.* Combining the characters of *obscura* Pelzeln of Pará and typical *viridis*; resembling *obscura* in having purplish reflections on the foreneck, and extensive blue apical spots to the wing-coverts; upper mantle darker, more blackish brown, than in *obscura*, passing rapidly to a brighter, lighter brown on lower back; elongated scapulars very different from *obscura*, much paler and more olive green, less brown; *dextralis* Conover has lead-colored reflections on the foreneck; almost obsolete golden-green apical spots on the wing-coverts; the elongated scapulars are darker and browner, with dusky vermiculations. It follows, therefore, that the scapulars of *interjecta* are intermediate between *dextralis* and *viridis*, while geographically it is intermediate between *dextralis* and *obscura*.

Our single specimen is sufficiently distinct from 2 ♂ 3 ♀ topotypes (Tauary, Rio Tapajoz) of *dextralis* Conover to be worthy of description. Compare in this connection the excellent comments of Conover (Proc. Biol. Soc. Wash., 47, 1934, pp. 119-120). The Trumpeters are now well known to have their ranges restricted to the areas between the larger rivers.

*LEPTOTILA RUFAXILLA HYPOCHROOS* subsp. nov.

*Type.* No. 143,253, Mus. Comp. Zool.; ♂ ad.; Paramaribo, Surinam; July 26, 1914; coll. T. E. Penard.

*Characters.* Closest to typical *rufaxilla* (Richard and Bernard) of Cayenne south to the lower Amazon, but strikingly darker and more richly colored above; occiput and hind neck violet purple, less greyish blue; back, rump and tail more vinaceous, less olive brown; whole of the wing except the primaries strongly vinaceous or coppery brown rather than olive brown. Underparts do not show any trenchant color differences.

*Material examined.* Typical *rufaxilla*: Cayenne, large series in the Carnegie Museum; Brazil, Obidos, 2 ♀; Santarem, 1 ?, 1 ♂ (Carnegie Mus.); Rio Tapajoz, various localities, east bank, 4 ♂ 3 ♀, also 2 ♂ 2 ♀ (Carnegie Mus.). *hypochroos*: Surinam, Paramaribo, 14 specimens.

*Remarks.* One of the surprises of our study of the Carnegie Museum collections was the discovery that in a number of cases British or Dutch Guiana specimens do not represent birds the type locality of

which is Cayenne, as has usually been assumed in the past. It is particularly apt to be true, of course, in variable species, like the ground dove here considered. Both Hellmayr and Chapman have commented upon the relative paleness of Brazilian birds as compared with others from British Guiana. Chapman's comments in addition would lead to the inference that his British Guiana series approaches the local form here proposed (cf. Bull. Amer. Mus. Nat. Hist., **34**, 1915, pp. 367-370), but his series consisted in part of 5 specimens of *hypochroos* loaned him by the M.C.Z. The race *hellmayri* Chapman of Trinidad and the north coast of Venezuela is very much paler and more olive brown and much paler below than either *rufaxilla* or *hypochroos*.

#### Notes on AMAZONA AMAZONICA (Linnaeus)

There is an astonishing amount of individual variation in this Parrot in the amount of blue and yellow on the head and the shade of the blue; the wing speculum may be yellow and orange to uniform scarlet, and occupies the outer webs of 3-5 secondaries. We find, however, that four males from Surinam are immediately separable from four Brazilian birds in being radically smaller with slenderer bills. We are aware that Hellmayr (1910, p. 406) changed the type locality to "les pays des Amazones" (ex Brisson), so that the northern form is named:

#### AMAZONA AMAZONICA MICRA subsp. nov.

*Type.* No. 143,325, Mus. Comp. Zoöl.; ♂ ad.; Surinam, Pomonack-reck; Jan. 18, 1913; coll. Penard.

*Characters.* Resembling typical *amazonica* of Brazil (as designated by Hellmayr), but smaller, with a slenderer bill.

2 ♂ *amazonica* — wing 211-218; greatest width of lower mandible 23-23.3

4 ♂ *micra* — wing 183-200; greatest width of lower mandible 18.8-21.3

#### GRAYDIDASCULUS BRACHYURUS INSULSUS subsp. nov.

12 ♂, 7 ♀, Rio Tapajoz, Santarem.

2 ♂, 6 ♀, 1? north bank of Amazon near Obidos

4 ♂, 2 ♀, south bank, Rio Amazonas, Lago Grande

*Type.* No. 173,516 Mus. Comp. Zoölogy; ♂ ad.; south bank, Rio Amazonas, Lago Grande; Sept. 9, 1932; coll. Olalla.

*Characters.* Resembling typical *brachyurus* (Temm. and Kuhl) of the far Upper Amazon ("Cayana" in error; we designate Apayacu, upper Amazon, east Ecuador), but very much smaller and with, however, a proportionately larger and heavier bill.

*Remarks.* It is certainly surprising that this Parrot should have been overlooked in lower Amazonia and that it is a well marked dwarf form.

Measurements	Wing	Tail
6 ♂ <i>insulsus</i>	139-145	48-53
3 ♂ <i>brachyurus</i>	150-159	56.5-63.5

TYTO ALBA HELLMAYRI subsp. nov.

*Type.* No. 143,296, Mus. Comp. Zoöl.; ♀ ad.; Paramaribo, Surinam; Jan. 30, 1913; coll. Penard.

*Characters.* Similar to *Tyto alba tuidara* (J. E. Gray) of Chile (but perhaps Brazil) in coloration, but considerably larger; wing of type 335 mm.

Hellmayr (1907, p. 29) recorded *Strix flammea* subsp. from Santarem with the following comment. "A very large fine specimen. . . . Very likely it represents an undescribed subspecies." Material before us measures as follows as regards wing length.

Chile	2 ♂	253-290	3 ♀	271-293
Southern Brazil	2 ♂	292-310	3 ♀	270-315
Santarem	1 ♂	315	1 ♀	327
Surinam	1 ♂	315	2 ♀	320-335

The new race ranges from the Guianas to the Amazon Valley. *T. a. perlata* Lichtenstein (Brazil; we suggest southern Brazil) is based on *tuidara* Marcgrave and is consequently a synonym of *tuidara* (J. E. Gray). The equally large *stictica* Madarasz of the north coast of Venezuela is a much browner bird above.

NOTES ON NYCTIPHRYNUS OCELLATUS (Tschudi)

One of the rarest of New World whippoorwills, chiefly known from a small series from upper Amazonia. The genus is known in Central America from a single specimen from eastern Nicaragua, described as a distinct species, *lautus* Miller and Griscom, but in reality only a representative form. That this disposition of the case is the proper one is shown by the very distinct race in southeastern Brazil described below:

## NYCTIPHRYNUS OCELLATUS BRUNNESCENS subsp. nov.

*Type.* No. 169,363 Mus. Comp. Zoöl.; ♂ ad; Fazenda Santa Maria, Rio Gongogy, Bahia, southeast Brazil; April 12, 1932; coll. Garbe.

*Characters.* Resembling typical *ocellatus*, but very much browner and duskier throughout, only a faint rufescent tinge on chest and scapulars.

It will now be seen that there is a gradual change of intergrading characters from north to south, typical *ocellatus* being the intermediate bird. Hellmayr (1910, p. 380) has already commented on the browner coloration of a Bahia bird as compared with a specimen from the Rio Madeira.

1. *lautus* Miller and Griscom. General coloration rich tawny to rufous chestnut. 1 ♂, the type, from eastern Nicaragua, wing 116, tail 103.

2. *ocellatus* (Tschudi). General coloration bright rufous brown. Four specimens, Amazonian Brazil and East Ecuador, ♂, wing 128-129.5, tail 128; ♀, wing 120-121, tail 115-119.

3. *brunnescens* nobis. General coloration light chocolate brown. 1 ♂, wing 130, tail 125.

Due to the marked difference in size between the sexes, any size differences indicated should be confirmed by additional material.

## Notes on NYCTIPOLUS NIGRESCENS (Cabanis)

Birds from the south side of the Amazon average very slightly larger than Guiana specimens, as the following wing measurements show.

Lower Amazon	4 ♂	142-150
Guiana	3 ♂	139-140
Lower Amazon	1 ♀	144
Guiana	3 ♀	139-146

These differences are insufficient for formal description. *N. maculosus* Todd (Proc. Biol. Soc. Wash., 1920, p. 76) the type of which we have examined, cannot possibly be a distinct species. It is not quite fully adult, and the greater degree of the white spotting on the primaries and rectrices is exactly the same character that distinguishes *N. whitelyi* (Salvin) from *nigrescens*, except that the white on the rectrices is terminal as in *nigrescens*, not subterminal as in *whitelyi*. In other words *maculosus* Todd is a single individual which varies



towards *whitelyi*. A Cayenne trade-skin before us approaches *maculosus* in having a narrow whitish tip to the outermost rectrix. There are really three subspecies as follows:

1. typical *nigrescens* (Cabanis). Male: white spot on primaries 2, 3, 4; white tip on both webs of rectrices 2 and 3, rarely with an oblong tip of white on inner web of outermost (a *maculosus* character). Female: primaries black; no white tips to rectrices.

2. *whitelyi* (Salvin). Male: white spot on primaries 1, 2, 3, 4; white on rectrices 2 and 3 subterminal, on inner web only (a *maculosus* character). Female: fulvous bar replaces white spot on first primary.

3. *duidae subsp. nov.* Type: No. 147,396, Mus. Comp. Zoöl.; ♂ ad.; Valle de los Monos, alt. 725 m., Mt. Duida, Venezuela; Nov. 9, 1928; coll. Olalla.

Much smaller white spots on primaries 3 and 4 only; white tips to rectrices half the extent of *nigrescens*; much silvery grey freckling on scapulars and secondaries. Female: darker below, with smaller spots on the chest.

In this species the amount of grey on the pileum, the presence or absence of a superciliary stripe and the relative distinctness of the barring of the abdomen are age characters. All have been claimed as specific.

#### Notes on CAPRIMULGUS RUFUS (Boddaert)

The receipt of two males from northeastern Brazil (Rio Tapajoz, Tauary and Pinhy), which presumably represent true *rufus*, enables us for the first time to give some notes on the variations of this little known bird. It proves necessary to revise radically the diagnoses of the two currently recognized races. Neither Bangs nor Ridgway ever saw true *rufus*. Ridgway's description of *rufus* is based on very different birds from Venezuela, Colombia and Panama, and his diagnosis of *otiosus* Bangs from St. Lucia is valid for this same material, but requires revision when compared with true *rufus*. We recognize the following races.

1. typical *rufus* Boddaert. Guianas and northeastern Brazil. A large bird, wing of 3 ♂ 165–174, 1 ♀ 184. General coloration darker and more rufescent; spotting on the inner webs of primaries relatively slight; barring on under tail coverts relatively heavy. A Bahia specimen in the American Museum also belongs here.

2. *rufus rutilus* Burmeister. As large as typical *rufus*, wing 181–185 mm.; general coloration similar to *rufus*, but separable at a glance

by the paler, less rufescent plumage; the pectoral collar almost pure white in part; spotting on primaries more extensive; under tailcoverts sometimes nearly immaculate; 1 ♂ 1 ♀ ad.; from Tucuman, Argentina April 9, 1916 and Nov. 14, 1918.

3. *rufus otiosus* Bangs. Island of St. Lucia, Lesser Antilles. Perhaps very slightly larger than typical *rufus*; general coloration much less rufescent, particularly on lower underparts; spotting on primaries and undertailcoverts as in *rufus*. It follows, therefore, that this race is far less distinct from typical *rufus* than previously supposed. 4 ♂ 2 ♀ examined, the males distinctly larger than the two males of *rufus*, the females about the same size as *rufus*, 188–189 mm.

4. *rufus minimus* subsp. nov. *Type*. No. 114,053, Mus. Comp. Zoöl.; ♀ ad.; Panama City, Panama, May 6, 1904; coll. W. W. Brown.

*Characters*. Much less rufescent than *rufus* in general coloration, and smaller, wing of 3 ♀ 169–174 mm.; chin and throat in adult more tawny, consequently paler than in *rufus*, the pectoral collar also tawnier and darker, consequently less contrasted with the throat. Two males and four females, Panama, Colombia and Venezuela (San Julian and Merida). Venezuela birds may prove separable from Panama birds.

*Remarks*. As perhaps can be inferred from the diagnosis above, some of the racial characters alleged by Ridgway to distinguish *otiosus* from *rufus* are matters of maturity. The two females from Colombia and Venezuela are immature birds. In these the abdomen is lighter and more buffy, thickly barred with blackish. The under tailcoverts are less barred than in adults, and there is far more spotting on the inner webs of the primaries. These last two points are consequently not racial characters. It was these two birds that Bangs and Ridgway both took to represent typical *rufus*.

Nomenclatural points are somewhat confused. *Antrostomus rutilus* Burmeister ("Brazil"; we designate southeastern Brazil) was apparently proposed without knowledge of the prior *rufus*. Pelzeln at one time maintained that *rufus* should be replaced by *rutilus* on the ground that the wretched plate in the "Tables Planches Enluminées" was not really identifiable. This point was accepted by Selater (P.Z.S., 1866, p. 586), who quotes Pelzeln in litt. and who suggested that *rufus* be called *rutilus*, and who described *ornatus* from Rio de Janeiro. This was based on a misconception of tail characters, and is a pure synonym of *rutilus* Burmeister. Pelzeln apparently changed his mind two years later in Ornith. Bras., p. 13. Here appears *Antrostomus*



*cortapau* ex Natterer ms. The type locality would be the first locality mentioned, Engenho do Capitaó Gama, which is fifteen leagues from the city of Matto Grosso. (cf. Itinerary, p. X). An important footnote states that two specimens from Bahia and the type of *cortapau* differ from a Pará specimen in being *yellowier* in general coloration. This seems to us to apply clearly to the pale extreme as represented by the Tucuman specimens cited above, and suggests a southern pale subspecies from most of southern Brazil southward. We feel it is much safer to call this bird *rutilus* Burmeister rather than describe the Argentine bird as new, until evidence to the contrary appears. Bahia birds may prove to be variable intermediates, as the only one seen by us is clearly inseparable from the Rio Tapajoz birds.

HYDROPSALIS CLIMACOCERCA CANESCENS subsp. nov.

*Type.* No. 173,621, Mus. Comp. Zool.; ♂ adult; Lago Grande south bank of the Amazon, west of Rio Tapajoz, Para, Brazil, Sept. 11, 1932; coll. A.M. Olalla.

*Characters.* Resembling typical *climacocerca* of far upper Amazonia, but the adult male notably paler and greyer above, less buffy and white below; the spotting on the wings as a rule pure white rather than buffy or even rusty; black streaking on pileum narrower; adult female apparently slightly paler below, but the light bars on all but the outermost rectrices paler and greyer, less buffy and ochraceous.

*Material Examined.* *climacocerca*: Manacapuru, Rio Solimoes, 3 ♂ 1 ♀ (Carnegie Museum). *canescens*: Santarem, 14 ♂ 5 ♀ and Rio Tapajoz, 1 ♂ (Carnegie Museum); also Lago Grande 2 ♂ 2 ♀, and Rio Tapajoz, 1 ♂.

*Remarks.* In default of Peruvian topotypes, we assume that the series from the Rio Solimoes represents true *climacocerca*. Even if it should prove not to be so, there can be little doubt that our bird represents a distinct form, as a very different, a remarkable rich and buffy bird occurs on the Rio Purus much nearer our area. On the north bank of the Amazon at Obidos 1 ♂ 4 ♀ in the Carnegie Museum represent another very distinct subspecies which connects *schomburgki* of British Guiana with *climacocerca*. We have here a graphic illustration of perfect modern series proving extensive geographic variation previously unsuspected in a little known bird. Mr. Todd is about to describe the two races mentioned above of which the M.C.Z. possesses no material.

A word about *trifurcata* Tschudi, first proposed in Wiegmann's

Archiv., 1844, as a nomen nudum, but validated by Tschudi in his Fauna Peruana ex Natterer MS. Sclater and Salvin as the first revisers (P.Z.S., 1866, p. 193) restricted this name to the first locality mentioned, viz. Lower Ucayali, Peru, thus making it a straight synonym of *climacocerca*. It consequently makes no difference that Natterer obtained specimens on the Rio Madeira, which might prove to belong to the form here described.

PHAROMACHRUS PAVONINUS VIRIDICEPS subsp. nov.

*Type.* No. 47,852 Mus. Comp. Zoöl.; ♂ ad.; lower Amazon, Brazil; coll. C. M. Calverly.

*Characters.* Resembling typical *pavoninus* Spix of upper Amazonian Brazil and eastern Ecuador, but upper tail coverts not reaching to tip of tail, instead of slightly surpassing the tail, in fully adult males; head green with little or no golden reflexions, instead of golden or bronzy golden in sharp contrast to green back; female darker green and browner below.

*Remarks.* Whether *pavoninus* is specifically distinct from *auriceps* Gould or not is largely a matter of opinion. The two birds differ only in the color of the bill and in size. As regards the latter point, however, *pavoninus* is distinctly smaller than true *auriceps*, 175–185 mm., versus 193–200 mm., but is little if any smaller than *auriceps heliactin* of western Ecuador. Typical *pavoninus* is a little known bird in collections, and definite localities are few. It has never been definitely recorded from Lower Amazonia. We have a ♀ from the Rio Tapajoz, Tauary, and 2 ♂ ad and 2 ♀ from the Thayer Expedition to Brazil in addition to the type. While none of these latter birds have a definite locality, they belong here on the basis of their characters, and Newton Dexter who collected most of the birds, was in Lower Amazonia only.

GALBULA LEUCOGASTER VIRIDISSIMA subsp. nov.

*Type.* No. 173,977, Mus. Comp. Zoöl.; ♂ ad.; Rio Tapajoz, Pinhy; May 8, 1933; Olalla Bros.

*Characters.* Differing from typical *leucogaster* of Surinam in being strikingly greener, less coppery above and on chest, and central tail feathers averaging about 10 mm. longer.

*Remarks.* This southern extreme from the south side of the Amazon River is distinct at a glance. True *leucogaster* has a very extensive range, as we have specimens from Mt. Duida, Venezuela and the Rio Purus in north central Brazil, which are not satisfactorily separable. 5 ♂ 2 ♀ of the new form examined.

Westward a very rapid transition takes place to *chalcothorax* Sclater, currently treated as specifically distinct. This much larger bird with purplish coppery upperparts and chest is represented in the collection by four specimens from the Rio Suno which agree perfectly with the beautiful colored plate of the type in Sclater's Monograph. From the Rio Curary further east in Amazonian Ecuador, however, we have two specimens, which are perfect intermediates between typical *leucogaster* and *chalcothorax*. These birds make it quite impossible to maintain the latter as specifically distinct. We do not believe that the description of a purely intermediate race is warranted, until evidence is available to show that these characters occupy a reasonably extensive range.

343. *RAMPHASTOS TUCANUS OBLITUS* subsp. nov.

*Type.* No. 174,070, Mus. Comp. Zoöl.; ♂ ad.; Rio Tapajoz, Tauary; May 7, 1933; A. M. Olalla.

Santarem (Chapman and Riker, as *R. crythrorhynchus*).

*Characters.* Resembling typical *tucanus* Linnaeus in size, but upper tailcoverts sulphur yellow with darker, more orange tips, or nearly uniform bright orange yellow; strikingly different from typical *tucanus*, which has uniform lemon or gamboge yellow upper tailcoverts; resembling *cuvieri* in having the bill largely blackish, rather than sanguineous red.

*Remarks.* Any proper treatment of one of these Toucans involves a thorough review of the entire group, beset with numerous complexities, both systematic and nomenclatural. Fortunately four great and keen students of neotropical birds have written notable critiques on this situation in recent years, in each case reporting the evidence of new and interesting material examined by them. These are Hellmayr in a series of famous papers on the birds of Amazonian and north-eastern Brazil; Hartert in two papers in *Novitates Zoologicae* for 1902 and 1925; Chapman in his reports on the birds of Colombia and Ecuador; and Zimmer in his report of the birds of the Marshall Field Peruvian Expedition.

Two outstanding facts of great biological interest have emerged as a result of these studies: — (1) Chapman proved that in upper Amazonia two species, which he called *cuvieri* and *culminatus*, occurred together, differing only in size and proportions and exactly alike in coloration. (2) Hellmayr (*Novit. Zool.*, 1905, p. 299) showed that two species occurred together in the Guianas, which differed only in the color of the bill. This point seems to have been overlooked or ignored by all

workers since, whose collections from the Guianas were either inadequate or erroneously determined.

Another factor, which has obscured the issue in the past, is the fading of the color of the bill of the living bird in death, and the proper allowances to be made for this, when there are both specific and sub-specific characters in the color of the bill. The outstanding illustration of this is the old key in the Catalogue of Birds, Vol. 19, where there were three "species" as follows:

- a. Bill red, etc. .... *erythrorhynchus* Gmelin
- b. Bill black, etc.
  - a. Bill with a reddish basal spot. .... *inca* Gould
  - b. Bill uniform black. .... *cuvieri* Wagler

As a matter of fact these three "species" boil down to two subspecies. It is quite *possible* that there may be some average bill color difference in life between *erythrorhynchus* Gmelin (= *movilis* P. L. S. Müller; = *tucanus* Linnaeus) of Guiana and lower Amazonia and *cuvieri* Wagler of upper Amazonia, the bill of the former often being described as "dark sanguineous red" and the latter by Hoffmann as "blackish." In dead birds, however, this difference often disappears. Thus a series before us from the Rio Tapajoz all taken the same year (1933) would key down to all three "species," though we are convinced that only one subspecies is involved. All that can be said then of dead birds is that many specimens of *erythrorhynchus* clearly show they must have had red bills, while others appear all blackish; in *cuvieri* all specimens seen and all others recorded would seem to show a blackish bill with at most a reddish basal spot. It was Zimmer, who recently emphasized these bill characters and suggested that *inca* Gould might disappear from nomenclature. We agree heartily.

There is a nomenclatural moral to these points. The identification of old names had better be made with extreme caution by some expert thoroughly familiar with the complexities of the problem. The brief descriptions of these old names were based on earlier plates of the greatest crudity. We should remember that (1) author and artist were entirely unaware of details, which we now know are of specific or racial importance and (2) we do not know whether the artist was making a crude painting of a *living* bird, or whether he was making an equally crude reconstruction of a dead bird.

To continue our systematic summary, we have then the following species and subspecies:

- A. *tucanus* Linnaeus. Bill without the concavity on the side of the maxilla below the culmen; of relatively large size.

1. *tucanus tucanus*. Bill dark sanguineous red; upper tail coverts lemon or gamboge yellow; wing of adults, 225–229 mm.; culmen, 142–146 mm. The Guianas and northeastern Brazil. Birds from Pará approach the next in having sulphur to orange upper tail coverts. Birds from the Rio Xingu are still another connecting link (*vide* Zimmer).
  2. *tucanus oblitus* Griscom and Greenway. Bill blackish, with at most a reddish basal spot; upper tail coverts rich sulphur or orange yellow to orange; size similar to the last. Amazonian Brazil (right bank of Rio Tapajoz presumably to left bank of Rio Xingu). 4 ♂ 1 ♀ examined.
  3. *tucanus curieri* Wagler. Similar to the last in bill and color characters, but much larger; wing of ♂ 242–258 mm., bill 190–217 mm. Wagler's type locality was "Brasilia versus flumen Amazonum." Hellmayr, however, compared specimens from the Rio Madeira with Wagler's type and found them identical. We consequently restrict the type locality to Borba, Rio Madeira. Known definitely from western and northern Matto Grosso, the Rio Madeira, the Rio Purus and the Rio Negro to the Rio Tapajoz, west to the eastern base of the Andes, Bolivia to Colombia. Birds from Mt. Duida, Venezuela are intermediate between *curieri* and *oblitus*. The bill is as long as the tail or longer. Large series examined.
- B. *aurantiiostris* Hartert. Bill without the concavity on the side of the maxilla, just as in *tucanus*. Coloration and size exactly as in typical *tucanus* (including lemon yellow upper tail coverts), but bill fiery or orange red in life instead of dark sanguineous; in death pale yellowish instead of dark reddish or blackish. Known only from Surinam and British Guiana (where much commoner than *tucanus*) and Venezuela.

As shown by Hellmayr (*loc. cit.*) this bird exists side by side with *tucanus* in Surinam, and he suggested that the light billed bird needed a name. Hartert (Novit. Zool., 1925, p. 143) proposed *monilis aurantiiostris* for this bird, overlooking or disbelieving Hellmayr's evidence. The Penard collection from Surinam contains both species from the vicinity of Paramaribo, and there is no difficulty in separating the two birds, including stubby billed juvenals. We have also seen three specimens from British Guiana in the American Museum. That institution has no specimens of true *tucanus* from British Guiana.

We must here say a few words about the nomenclature. We



heartily agree with Peters (Auk, 1930, p. 405) that Linnaeus' description and references for *tucanus* are clearly referable to this species in the "formenkreis" sense. But it is *not* definitely identifiable as either of the two species here defined. We have the right to apply the name, and consequently propose Surinam as a restricted type locality, and restrict the name *tucanus* to the bird with the dark sanguineous red bill. In this way no nomenclatural upsets are made. We might add that *monilis* P. L. S. Müller, *erythrorhynchus* Gmelin and *hacmatorhynchus* Berlepsch and Hartert are clear synonyms of *tucanus* Linnaeus, and we definitely restrict the first two to the darker billed bird.

- C. *culminatus* Gould. Type locality restricted by Hellmayr to Rio Solimoes, Brazil. Bill with a marked concavity on the side of the maxilla below the culmen. Much smaller than *tucanus curieri* with the bill shorter than the tail. Upper Amazonia to the eastern base of the Andes, Bolivia to Colombia. Wing of adults, 190-212; bill 111-149.

The only possible subspecies of *culminatus* is the dubious *osculans* Gould, which, however, seems to have no definite range of its own. It would represent this species in the Guianas, however, if the specimens in the British Museum from British Guiana and Oyapock, Cayenne are authentic. In bill structure and color it agrees with *culminatus* in having the maxillary groove and the pale yellow culmen in sharp contrast with the blackish sides.

#### NOTES ON PTEROGLOSSUS ARACARI

As Hellmayr has shown, typical *aracari* ranges from the south bank of the Amazon south to Bahia. We have an adequate series from Bahia and Rio de Janeiro. It is the bird with a paler yellow breast, and the narrow black culminal ridges.

Still further south, we have three specimens of *aracari* from Santa Rita, Minas Geraes (George Sceva), and São Paulo, Fazo Cayoa and Valparaiso. These birds show a remarkable convergence in body color to *castanotis australis* Cassin, but are immediately separable in having the bill characters of *aracari*, and not those of the specifically distinct *castanotis*, which we also have from Valparaiso, São Paulo. In the latter species the bill is a deeper orange, the black culminal ridge is broadly triangular basally, and the upper mandible has an elongated band of black along the cutting edge. The new subspecies of *aracari* is almost identical in coloration with the black-headed variation of *castanotis australis*. It may be known as



*PTEROGLOSSUS ARACARI VERGENS* subsp. nov.

*Type.* No. 156,885, Mus. Comp. Zoöl.; ♂ ad.; Valparaiso, São Paulo; June 30, 1931; coll. by Lima; ex Museu Paulista in exchange.

*Characters.* Differing strikingly from typical *aracari* in having chin and upper throat dark chestnut brown broadly connected with the side of the head and auricular region, which are also dark chestnut brown. In this respect exactly resembling *castanotis australis*, in which the chestnut is, however, a lighter shade. In addition to the totally different bill characters discussed above, differing from *castanotis* in color in having olive green instead of chestnut thighs.

*SELENIDERA MACULIROSTRIS HELLMAYRI* subsp. nov.

*Type.* No. 174,105, Mus. Comp. Zoöl.; ♂ ad.; Rio Tapajoz, Boim; Jan. 12, 1933; A. M. Olalla.

*Characters.* Resembling *gouldi* (Natterer) of Pará, but in both sexes black blotch at base of upper mandible more restricted; black blotch near tip of lower mandible surviving only as an obscure jagged line.

*Remarks.* Hellmayr (Novit. Zool., 1910, p. 400) called attention to this character in birds from the Rio Madeira, remarking that this difference should be confirmed by additional material. The birds before us do strikingly confirm it, and we take pleasure in naming the new form after Dr. Hellmayr. 3 ♂ 6 ♀ examined.

*CHRYSOPTILUS PUNCTIGULA PALLIDIOR* subsp. nov.

*Type.* No. 174,228, Mus. Comp. Zoöl.; ♂ ad.; Rio Amazonas, Lago Grande; September 6, 1932; A. M. Olalla.

*Characters.* Differing from typical *punctigula* of Cayenne and Surinam (series from Cayenne, Surinam and Obidos examined) in being generally paler above and below, upper parts lighter, more golden brownish; light bars of outer tail feathers paler; chest paler in ground color and more orange, less crimson tinged, the belly paler and purer yellow, less greenish yellow; round black spots on chest and breast usually larger, more distinct and more abundant. 1 ♂ 5 ♀ from the type locality; 7 ♂ 7 ♀, Santarem (Carnegie Mus.).

We are not aware of any report of a series of this woodpecker from the Lower Amazon, with the exception of those recorded by Snethlage, who did not have typical *punctigula* for comparison. The characters of this subspecies have nothing to do with *guttatus* (Spix).

*CERCHNEIPICUS TINNUNCULUS ANGUSTUS* subsp. nov.

*Type.* No. 171,161, Mus. Comp. Zool., ♂ ad.; Caxiricatuba, right bank of Rio Tapajoz, Para, Brazil; August 12, 1932; coll. A.M. Olalla.

*Characters.* Differing from typical *tinnunculus* in the narrow black barring of the upper parts and the rufous and black barring of the whole of the outer tail feathers; differing from *occidentalis* Hargitt of Amazonian Peru (Upper Ucayali) in that the barring on the upper parts is greatly reduced and the individual bars are always much narrower; in extreme specimens the upper half of the back is almost uniform rufous.

*Material examined.* *occidentalis*: fine series in the Carnegie Museum from the Rio Solimoes; *angustus*: the type, and 3 ♂ 1 ♀ from Santarem in the Carnegie Museum.

*NASICA LONGIROSTRIS AUSTRALIS* subsp. nov.

*Type.* No. 104,401, Mus. Comp. Zool.; ♂ ad.; Santarem, Brazil; Oct. 2, 1882; coll. unknown.

*Characters.* Adults readily distinguishable from true *longirostris* of the north bank of the Amazon by the lighter upper parts, more fox colored, less chestnut brown; belly slightly more fulvous or tawny, less buff; in immature stages, the difference in the underparts is more intensified.

*Remarks.* Immature specimens of *Nasica* are readily recognized by the paler underparts, the presence of faint barring and cross vermiculations on the belly, and by the paler and larger appearing white guttate markings on chest and abdomen, due really to the paler less blackish borders to the spots. Fully adult specimens with no vermiculations on the belly seem scarce, the majority of our series being transitional. When specimens of comparable age are compared the characters given above are readily appreciable. Immature specimens of *australis*, however, do *not* have the ground color of the belly tawnier than in adults of typical *longirostris*.

An adult and an immature from the base of Mt. Duida in Venezuela agree absolutely with the series from near Obidos. An adult and an immature from Puerto Indiana, Amazonian Ecuador are nearer *australis*.

*Dendrocopus longirostris* Vieillot was based on a Levaillant plate from "Brasil." There being two races in Brasil, we designate Boca-do-Igarapé-Piaba, near Obidos, as the restricted type locality of typical *longirostris*. *Nasica nasalis* Lesson was based on the same Levaillant plate.

## ANCISTROPS STRIGILATUS COGNITUS subsp. nov.

*Type.* No. 174,474, Mus. Comp. Zoöl.; ♂ ad.; Tauary, right bank of Rio Tapajoz, Para, Brazil; Oct. 16, 1932; coll. A.M. Olalla.

*Characters.* Differing from typical *strigilatus* of the Rio Solimoes (17 specimens) in being more ochraceous brown and paler above, less greyish olive brown (even in worn specimens); as a result the shaft streaks are much less contrasted. Below much buffier throughout, particularly on the throat, which is less spotted with dusky; the eye stripe is buffy rather than whitish as are the ear coverts.

*Material examined:* *strigilatus*: Rio Solimoes, 17 specimens (Carnegie Museum); Rio Purus, 21 specimens (Carnegie Museum). *cognitus*: the type and in the Carnegie Museum, Santarem, 1 ♂; Rio Tapajoz, Miritituba, 2 ♂ 1 ♀; Villa Braga 2 ♂ 1 ♀.

*Remarks.* A series from the Rio Purus (21 specimens) resembles true *strigilatus*, but averages minutely greyer and paler above, a difference which we do not consider sufficient for formal description.

## PHILYDOR ERYTHROPTERUS DILUVIALIS subsp. nov.

*Type.* No. 174,480, Mus. Comp. Zoöl.; ♂ ad.; Caxiricatuba, right bank Rio Tapajoz, Para, Brazil; Aug. 9, 1932; A. M. Ollala.

*Characters.* Differing from typical (?) *erythropterus* in being slightly browner, less ashy above, most noticeable on rump and upper tail coverts; below obviously buffier (on chest) and sides, flanks and under tail coverts more brownish, less ashy.

*Material examined.* Typical (?) *erythropterus*: east Ecuador, 2; Rio Solimoes, 4 (Carnegie Mus.); Rio Purus, 10 (Carnegie Mus.). *diluvialis*: the type and 3 ♂, Villa Braga, left bank of Rio Tapajoz (Carnegie Mus.).

*Remarks.* Our series is obviously a different subspecies from a series from further west. There is no knowing, however, whether these birds represent true *erythropterus* (Bogota collections) or still another form.

## XIPHOLENA LAMELLIPENNIS PALLIDIOR subsp. nov.

*Type.* No. 175,166, Mus. Comp. Zoöl.; ♀ ad. breeding; Santarem, Rio Tapajoz; July 15, 1932; A. M. Olalla.

*Characters.* Adult males inseparable, but breeding females compared with breeding females of the typical form (and non-breeding with comparable birds) notably paler below, more cinereous, less sooty on throat and chest, more whitish on belly and abdomen.

We note the following measurements for the wing of males: — Para, 117–122; Rio Tapajoz, 115–117. There are no size differences in the females. A series of 7 ♂ 5 ♀ from Rio Tapajoz, Pinhy, and Santarem.

*TODIROSTRUM LATIROSTRE SENECTUM* subsp. nov.

*Type.* No. 175,819, Mus. Comp. Zoöl.; ♀ ad.; Boca do Igarape-Piaba, near Obidos, Brazil; March 6, 1933; coll. A. M. Olalla.

*Characters.* Differing from typical *latirostre* (Pelzeln) of Borba, Rio Madeira, southward and westward, in being slightly greyer, less bright green above, wing bars and edgings paler, less rusty buff; below much greyer on throat and chest, less olive and yellow on flanks and belly; differing from *caniceps* Chapman in being browner on the pileum and lacking the extension of the grey of the pileum of this form on to the hindneck and mantle; wing bars buffier, less rusty; whiter, not so grey below.

*Material examined. latirostre:* Matto Grosso, 2 ♂, series of 18 from Rio Purus and Rio Solimoes (Carnegie Mus.); *caniceps:* 1 ♂, Curaray, east Ecuador; *senectum:* 2 ♀, type locality; 5 ♂, Obidos (Carnegie Mus.); 5 ♂, 2 ♀, Santarem (Carnegie Mus.).

*Remarks.* Never previously recorded from the State of Para. We have seen no topotypes from the Rio Madeira, but note that Hellmayr, who has, refers Matto Grosso and Rio Solimoes birds to the nominate form.

*MOLOTHRUS BONARIENSIS RIPARIUS* subsp. nov.

*Type.* No. 176,543, Mus. Comp. Zoöl.; ♀ ad.; Pinhy, Rio Tapajoz, Brazil; June 11, 1933; coll. A. M. Olalla.

*Material examined.* 13 ♂, 3 ♀, Rio Tapajoz, various localities east bank; 1 ♀, Lago Grande west of Rio Tapajoz. Also 8 ♂, 4 ♀ in Carnegie Museum.

This series makes it quite impossible to follow Friedmann's treatment (Auk, 1927, p. 500) in which he extends the range of typical *bonariensis* northward to the south bank of the Amazon. This disposition of the case is also followed by Hellmayr (Orn. northeastern Brazil, 1929, p. 273), who abandons his attempt to "revive" *M. bonariensis sericeus* (Licht.) on the basis of size differences only. The main difficulty of both these authors seems to have been that they had very few specimens and practically no adult females. It is, of course, the females that show best the subspecific characters. Curiously enough Madame Snethlage did have a series from the

Amazon, which she referred erroneously to "*atronitens* Cabanis," now *minimus* Dalmas. The average wing length she gives for seven males, 107 mm., is just right for our own series, whereas the males of true *minimus* are less than 100 mm. Hellmayr extended the range of *minimus* Dalmas south to the Amazon on the basis of a ♀ collected by Natterer at Cajutuba, just east of Pará, which measured 99 mm. Other females from this region, however, range up to 104 mm., and this wing length for females of 99–104 mm. is again just right for our females from the Tapajoz. This again has nothing to do with the dwarf female of *minimus*, which is less than 90 mm. There are really three very distinct races, and the one from the Amazon is in no sense an intermediate.

1. *bonariensis* (Gmelin). Type locality, Buenos Aires. Wing of male averaging 114.5 mm. Adult females sooty brown, appreciably lighter below than above; very uniform below, chin and throat but little or not at all lighter than chest. Juvenal males not heavily streaked below. North to Ceara, Piauhy and Maranhao. Synonyms are *sericeus* (Lichtenstein), *minor* (Spix), *violaceus* (Wied) and *murinus* Pelzeln.

2. *riparius* Griscom and Greenway. Wing of male averaging 107 mm. Adult female quite different from *bonariensis*, slightly blacker, less brown, above, relatively paler below; also sootier, less brown, below, the chin and throat abruptly paler than chest, more contrasted than any other South American race, east of the Andes. Two immature males are heavily streaked blackish and buffy below, a plumage we cannot match in any other race. Lower Amazon Valley, westward to the Rio Tapajoz and Obidos. Judging by the recorded measurements of adult males, birds from the Rio Madeira and the Rio Purus do not belong here. Adult females should be examined for a final decision as to their status.

3. *minimus* Dalmas. Type locality, Tobago. A dwarf race, wing of adult males under 100 mm. Female, wing under 90 mm.; paler below, a warmer, less sooty brown than *bonariensis*, which is consequently intermediate in general coloration below. This race does not range south to the Amazon valley, but its southern limits remain to be determined.

#### Notes on TANGARA CAYANA (Linnæus)

A good series of 11 ♂ 15 ♀, 2 imm. from Santarem, leads to some unexpected discoveries. In the first place this common tanager is practically unknown on the south bank of the Amazon. In the second

place it is almost identical with typical *cayana* of the Guianas, and shows no approach whatever to *huberi* of Marajo Island or *flava* of eastern and southern Brazil. In the third place there would appear to be a most unusual type of *post mortem* color change in this species. At first glance we supposed that our Rio Tapajoz series represented a very distinct subspecies as compared with a good series of *cayana* from Cayenne, British Guiana and eastern Venezuela. The Brazilian males have a brighter blue chin and throat, and this blue is continued downward as a wash over much of the silky, old gold breast and abdomen. In typical *cayana* this blue is duller and more ashy; there is at most a faint grayish wash on the center of the breast, but the underparts have a distinct lavender tone, lacking in our Santarem series. Much to our surprise, however, two old skins from Santarem are quite indistinguishable from the older northern birds and show none of the characteristics of the recent Santarem series. We conclude, therefore, that some *post mortem* change has taken place. There are also color differences in the females and immature. Our recently killed Brazilian birds are brighter colored below, yellower, less buffy and ashy than northern birds, with more of a silky gloss. But by analogy with the adult males we are suspicious that these differences might also be due to *post mortem* change.

There proves to be a surprising amount of size variation in this species, best brought out by the table below of wing measurements.

1 ♂ "Cayenne"	75
2 ♂ British Guiana (interior)	75-78.5
2 ♂ Surinam (coast near Paramaribo)	66.5-67
8 ♂ east Venezuela	71-76
9 ♂ Rio Tapajoz, Brazil	68-72

It will thus be seen that Cayenne and British Guiana birds are large, Venezuela birds slightly smaller, Brazilian birds still smaller, and the Surinam bird a dwarf in sharp contrast with the large size of its geographical neighbor. In addition to this the Surinam birds are distinctly darker above, the female darker and more green than more recently collected Venezuelan specimens, eliminating any possibility of a *post mortem* change. On these characters of size and color, therefore, we propose:

TANGARA CAYANA LITTORALIS subsp. nov.

*Type.* No. 145,451, Mus. Comp. Zoöl., ♂ ad.; June 29, 1921; near Paramaribo, Surinam; Penard Coll., and typify true *cayana* (Gmelin) as the larger bird in the interior of French and British Guiana.



We do not favor the description of the Brazilian bird on size characters alone. While it is a geographic extreme, too much of the range of *cayana* is occupied by intermediate specimens, and the examination of larger series from the interior of French and British Guiana might reduce the apparent large size of birds from this area.

*HABIA RUBICA HESTERNA* subsp. nov.

*Type.* No. 176,738, Mus. Comp. Zoöl.; ♂ ad.; Pataua, right bank of the Rio Tapajoz, Para, Brazil; June 26, 1933; coll. A. M. Olalla.

*Characters.* Differing from *peruviana* Taczanowski of far upper Amazonia in averaging slightly paler below, most obvious in the paler grey veiling on the abdomen and the much paler under tail coverts; throat in adult males pinker and less scarlet.

*Material examined.* *peruviana*: large series (21 specimens) from the Rio Solimoes and Rio Purus; also 5 ♂ Villa Braga, left bank of Rio Tapajoz (all in Carnegie Museum). *hesterna*: Santarem, 6 ♂ ad., 7 ♂ imm., 6 ♀ (Carnegie Museum); Rio Tapajoz, right bank, 1 ♂ 5 ♀.

*Remarks.* The Rio Tapajoz is very definitely the dividing line between the new form and what is presumably true *peruviana*. Hellmayr cannot separate series from the Rio Madeira and westward in Amazonian Brazil from another series from northwestern Peru. The Villa Braga birds agree perfectly with those from the Rio Purus and Solimoes.